

## CLAIMS

What is claimed is:

1. A stator installation jig for a coil-winding machine adapted to support a ring-shaped stator provided with a plurality of magnetic pole protuberances on an inner periphery of the stator and having a connector with a plurality of connector parts on an outer periphery wherein stator coil wires are wound onto the magnetic pole protuberances and the plurality of connector parts by means of the coil-winding machine, the stator installation jig, comprising at least one projecting member that penetrates through a gap that is formed between the connector and the outer periphery of the stator when the stator is supported by the stator installation jig, the at least one projecting member forming a plurality of grooves such that the stator coil wires which are strung between the connector parts and the plurality of magnetic pole protuberances are carried over the projecting member and between the plurality of grooves thereby imparting slack to the stator coil wires while preventing the stator coil wires from crossing.
2. The stator installation jig according to claim 1 wherein each of the plurality of grooves has a concave shape.
3. The stator installation jig according to claim 1 wherein the at least one projecting member includes at least three substantially parallel grooves.
4. The stator installation jig according to claim 3 wherein at least two coils extend within at least one of the at least three substantially parallel grooves.

5. The stator installation jig according to claim 1 wherein each of the plurality of grooves extends between substantially rounded wall portions formed in the projecting member.

6. The stator installation jig according to claim 1 wherein each of the plurality of grooves extends between substantially rectangular wall portions formed in the projecting member.

7. A slack forming mechanism, comprising a stator attachment jig for receiving and coupling a stator to a coil winding machine, a slack forming member having a plurality of grooves, the slack forming member adapted to extend through an opening between a stator body and a coil wire connector, wherein the grooves extend from an end of the slack forming member toward the opening for imparting slack to and separating a plurality of coils extending between the stator and the coil wire connector.

8. The slack forming mechanism according to claim 7 wherein each of the plurality of grooves has a concave shape.

9. The slack forming mechanism according to claim 7 wherein the slack forming member includes at least three substantially parallel grooves.

10. The slack forming mechanism according to claim 9 wherein at least two coils extend between at least one of the at least three substantially parallel grooves.

11. The slack forming mechanism according to claim 7 wherein each of the plurality of grooves extends between substantially rounded wall portions formed in the slack forming member.

12. The slack forming mechanism according to claim 7 wherein each of the plurality of grooves extends between substantially rectangular wall portions formed in the slack forming member.

13. In a stator installation jig for a coil winding machine, having a slack forming plate including a plurality of grooves, and adapted to support a stator provided with a plurality of magnetic pole teeth and having a connector with a plurality of connector parts on an outer periphery of the stator and a gap formed between the connector and stator, a method of winding coils between the stator and the connector comprising the steps of supporting the stator on the installation jig such that the slack forming plate extends through the gap in the stator, winding coils on the plurality of magnetic pole teeth, and connecting terminal end portions of the coils to the connector such that at least one coil extends over and within each of the plurality of cavities in the slack forming plate to separate and create slack in the coil wires.

14. The method according to claim 13 further comprising the step of applying a varnish to the wound coils.

15. The method according to claim 13 further comprising the step of extending at least two coils over and within a single cavity of the plurality of cavities in the slack forming plate.

16. The method according to claim 13 further comprising the step of choosing the number of the plurality of cavities according to the pitch of the stator coils.